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ABSTRACT

To identify: (1) the disciplines integrated in Chinese communication studies; (2) the contribution of Chinese studies and communication journals and authors to the field; and (3) active research areas, a study employed the citation and co-citation network analysis method. The study selected articles about Chinese communication in 11 Chinese/Asian studies journals and 13 journalism/communication journals. From these articles, 561 citations were used in the analysis. The study covered Chinese communication studies between 1931 and 1987. Findings showed that: (1) in terms of disciplines, Chinese history was the most cited discipline, followed by journalism and communication; (2) cross-journal activities between communication and Chinese studies journals were few; (3) authors' academic affiliation indicated a lack of exchange between communication and Chinese studies authors; (4) there was an almost non-existent co-citation network; and (5) thus far there is no major research front, "hot topic," or classic work in Chinese communication studies. (Fourteen tables of data and two figures are included, and the Chinese Communication Co-Citation Study Coding Form is appended.) (Author/MS)

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Chinese Communication Studies As a Field: A Citation Analysis of Chinese Communication Research in English-language Journals

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Chinese Communication Studies as a Field: A Citation Analysis of Chinese Communication Research in English-language Journals

Abstract

This paper employs the citation and co-citation network analysis method to identity (1) the disciplines integrated in Chinese communication studies, (2) the contribution of Chinese studies and communication journals and authors to the field, and (3) active research areas. The study also seeks to contribute to the methodological issues of citation analysis by including new variables in the analysis.

The literature review shows that the foci of citation analysis have been: (1) source of citations, (2) disciplines, (3) cross citations, and (4) co-citation network. This study, while examining these questions, suggests that two more variables--the themes of the research and the author's academic affiliation--should be added to identify the disciplines and cross-citation activities.

The study selected articles about Chinese communication in 11 Chinese/Asian studies journals and 13 journalism/communication journals. Eighty-two articles were selected, and 62 articles that used citations were included in the study. Since the earliest article was published in 1931, this study covered Chinese communication studies between 1931 and 1987.

Five hundred and sixty-one citations were used in the analysis. Journalism Quarterly and China Quarterly had the highest citation counts, 154 and 122, respectively. They recorded almost 50 percent of all citations. Books and journal articles were the two largest citation sources, representing 83 percent. Most of the citations were taken from recent publication sources.

In terms of disciplines, Chinese history was the most cited discipline; followed by journalism and communication. The disciplines were related to the theme of articles. Moreover, the disciplines cited were related to the academic affiliation of the citing authors. Communication and Chinese studies authors tended to cite more in their own field.

Cross journal activities between communication and Chinese studies journals were few. China journals were found to have only one citation from communication journals, whereas the majority of communication journals citations were from communication journals. The analysis of the authors' academic affiliation also shows a lack of exchange between communication and Chinese studies authors.

The citations show an almost non-existent co-citation network. Only eight books and journals have been cited more than three times. This finding shows there is yet to be a major research front, hot topic and classic work in Chinese communication studies.

Chinese Communication Studies as a Field: A Citation Analysis of Chinese Communication Research in English-language Journals

I. PURPOSE OF THE STUDY

Citation analysis, used by researchers to establish relationships among documents, has been a research method widely used to identify the scientific activities of various fields of studies. Research activities are efforts of accumulation--researchers identify what had been found and expand upon it. Therefore, citing previous studies, whether the author agrees or disagrees with cited material, is a regular academic practice. The pattern of citations may indicate the nature of scholarly exchange among disciplines.

Based on this assumption, citation analysis has several uses: (1) it identifies major research activities within a field when important and influential ideas are frequently cited; (2) it pinpoints the boundary between the known and the unknown, and, thus, outlines the specialty structure of science, and (3) it locates "research front" and "hot topics" when highly cited works are identified (Garfield, Malin and Small, 1978; Velke, 1970). In addition, citation analysis also helps identify the interrelationships of disciplines by analyzing citation linkages. Citations are indicators of scientific activities (Garfield et al., 1978).

This paper, employing citation analysis, seeks to identify how the study of Chinese communication has developed as a field. The identification of major research activities and "hot topics" in the field is useful for guiding the direction of future research. By pinpointing the academic disciplines related to the study of Chinese communication, boundaries of this field can be established. Such knowledge may help guide future development of Chinese communication studies.

Moreover, using Chinese communication studies as an example, the study also suggests inclusion of new variables in citation

analysis studies to identify the disciplines of a field and the cross-disciplinary and cross-journal activities.

The paper first reviews the theory and practice of citation analysis. Then, it discusses how this method is applied in identifying Chinese communication studies as a field. In doing so, it presents a rationale for choosing journal articles for the study and for the variables included in the analysis. A section on findings discusses the information sources and disciplines contributing to the development of Chinese communication studies as a field.

II. Theory and Practice of Citation Analysis

Citation count and network analysis have been used in the assessment of scientific activities for at least 50 years (Narin, 1976). A scientific activity does not stand alone, but is embedded in the literature of the subject (Ziman, 1968). An essential part of research papers is the acknowledgment of prior findings. The recognitions are usually in two forms: (1) a reference--the acknowledgment that one document gives to another; (2) a citation--the acknowledgment that one document receives from another (Smith, 1981, p. 83). Therefore, a citation implies a relationship between a part or the whole of the cited document and a part or the whole of the citing document (Malin, 1968). Citation analysis is an area of bibliometrics, which deals with the study of these relationships. Studies have been conducted mainly for two purposes: (1) as tools for the librarian in evaluating the utilization and usefulness of particular collections in a library where space is limited (Subramanyam, 1976); and (2) to evaluate scientific activity (Broadus, 1971; Reeves and Borgman, 1983). This paper will focus on how citation analysis is used to evaluate scientific activity.

A citation analysis is based on the principle that there is some meaningful relationship between one paper and another that it cites or that cites it, and, thus between the work of the two authors or two groups of authors who published the papers. The

citations in a paper can refer to findings of fundamental research, to a research method, to a critique of prior research, to an acknowledgement of a peer's contribution or some other intellectual debt. It sometimes maybe a symbolic and cosmetic act (Garfield, 1965 & 1972; Moravcsik & Murugesan, 1975; Rice, Borgman & Reeves, 1988). The citations can relate to such prior work in a positive or negative manner. Kochen (1974) observed that "it is not surprising that there is a great deal of arbitrariness in the way authors select references for their bibliographies. Undoubtedly, many documents which should have been cited are missed; and many documents which the author does cites are only slightly relevant." These observations point out the uses and abuses of citation, thus affecting the reliability of this research method.

Despite the uncertainties associated with the nature of the citation practices, citation analysis still is practiced widely as an unobtrusive and readily available method. Unlike data obtained by interview and questionnaire, citations are unobtrusive measures that do not require the cooperation of a respondent and do not themselves contaminate the response (Parker, Paisley and Garrett, 1967; Smith, 1981). Smith (1981) further argued that:

> Citations are signposts left behind after information has been utilized...Any set of documents containing reference lists can provide the raw material for citation analysis, and citation counts based on a given set of documents are precise and objective (p. 85).

Thus, citation analysis has led to a rapid growth in both the number and types of studies. Citation analysis has been employed to the study of sociology (Broadus, 1952; Lin and Nelson, 1969); educational research (Broadus, 1965; Smart, 1983); journalism and communication[1] (Reeves and Borgman, 1983; Rice, Borgman and Reeves, 1988; Rush and Kent, 1977a and 1977b; So, 1988; Tankard, Chang and Tsang, 1984; Tannenbaum and Greenberg,

1961; Webb and Salancik, 1965); psychology (Haynes, 1983; White and White, 1977; Xhignesse and Osgood, 1960); management (Durand, 1974; Neeley, 1981); economics (Bush, Mamelman and Staaf, 1974; Eagly, 1975); business (Hamelman and Mazze, 1974); marketing (Hamelman and Mazze, 1973); accounting (McRae, 1974); europhysics (Vlachy, 1980); finance (Hamelman and Mazze, 1974); sedmentology (Pilkey and Wilcox, 1981); health studies (Price, Newell and Miller, 1982); microbiology (Sengupta, 1974); pharmacology (Koenig, 1983; Sengupta, 1974); physiology (Sengupta, 1973); and vocational rehabilitation (Cook, 1983). Citation analysis also has been applied to cross national comparisons of research activities (Narin and Carpenter, 1975). Further, citation analysis has been employed to trace the influence and achievements of important scholars, such as sociologist Robert K. Merton, by counting how many times, in what fields, and in which journal or books he was cited (Garfield, 1980).

Since citation analysis is so widely applied, the methodological issues are also discussed in several articles (Garfield, 1979; Garfield, Malin and Small, 1978; Goudsmit, 1974; Gregory, 1983; Lipetx, 1976; Martyn, 1975; Narin, 1976; Roberts, 1975; Smith, 1981; Cawkell, 1968). In sum, the development of citation analysis has been marked by the invention of new techniques and measures, the exploitation of new tools, and the study of different unit of analysis (Smith, 1981, p. 85).

The easiest technique used is citation count--to determine how many citations have been received by a given document or set of documents over a period of time from a particular set of citing documents (Smith, 1981, p. 85). Bibliographic coupling and co-citation analysis are also used. Two documents are bibliographically coupled if their reference lists share one or more of the same cited documents. Two documents are co-cited when they are jointly cited in one or more subsequently published documents (Smith, 1981, p. 85). The difference between the two is that "bibliographic coupling is an association intrinsic to

the documents (static), while co-citation is a linkage extrinsic to the documents, and one that is valid only so long as they continue to be co-cited (dynamic)" (Smith, 1981, p. 85).

Tankard, Chang and Tsang (1984) suggested that citation counts alone can be misleading and should be supplemented with analysis of citation networks (p. 89). They said "this allows the identification of clusters of papers, and strengthens the argument that an important area has been identified" (p. 89). They quoted other researchers (Garfield, 1977; Meadows and O'Connor, 1971; Price, 1965) as saying that citation networks can be used (1) to give a better overview of a field, (2) to identify research fronts, (3) to identify new growth area in a scientific field by looking for a high degree of connectedness, and (4) to identify classic papers (p. 89). Small (1973) said co-citation patterns change as interests and intellectual patterns of the field change. When viewed over a period of years, Small said, they may provide clues to understanding the mechanism of specialty development (pp. 265-166).

III. Application of Citation Analysis in Communication Studies

The Tankard et al. study is one of several applying citation analysis in examining research activities in journalism and communication. The efforts to understand and evaluate how communication studies have developed as a field first started by researchers using the content analysis method. Schramm (1957) and Perloff (1977) had tried to define the focus of journalism activities by analyzing themes of articles published in the Journalism Quarterly.

The first use of citation count to evaluate journalism development was Tannenbaum and Greenberg's (1961) study assessing major trends in focus and method of journalism and mass communication research. Their study investigated references to journals and periodicals cited within the Journalism Quarterly articles from 1930 to 1959. They suggested that "(journalism and mass communication) have changed less to an interdisciplinary

field than might be expected" (p. 206). Webb and Salancik (1965) further refined Tannenbaum and Greenberg's study by examining changes of data collection methods and the relationship between authorship and data collection methods.

The common characteristic of these studies is that a single journal--Journalism Quarterly, the most authoritative journal in the field--was used to track activities in journalism. In later citation analysis studies, the focus shifted from what had been written in journalism to what channels (specifically, what journals) communicators used to communicate. The study of Parker, Paisley and Garrett (1967) marked the beginning of applying citation analysis in communication studies. The communication journals used for analysis were expanded to 15. Instead of examining the content of the researches, the study provided results on (1) sources of citations, (2) time trends in citation-sources, (3) age of cited materials, (4) citations per article, (5) self-citations, (6) multiple authorship, (7) acknowledgements per article, (8) cluster analysis, (9) direct journal-journal citation, (10) imbalances in journal-journal citation, and (11) "structure" in the journal-journal citation network. These topics sought to explain the questions of which disciplines were integrated to form the study of communication, and whether there were cross-citations between different types of communication journals and between communication journals and other journals.

Parker et al.'s study was followed by Reeves and Borgman (1983); Rice, Borgman and Reeves (1988); and So (1988). These studies looked at journal-to-journal citations between mass communication-oriented and interpersonal-oriented journals. The journals included in the dataset of these studies were expanded by using the computerized Social Science Citation Index Journal Citation Reports from 1977 to 1985. Their findings suggested little journal-to-journal citation between mass communication and interpersonal communication. This formed a dichotomized subfield

in the overall communication field (So, 1988; Reeves et al, 1983; Rice et al, 1988). The result was no different from that obtained by Parker et al's (1967). Reardon and Rogers (1988, p. 292) commented that this lack of subdisciplinary cross-citation is approximately equivalent to the extremely rare cross-citation among political science, sociology and psychology journals.

In terms of disciplines integrated to establish communication as a field, So (1988) found that psychology literature is cited heavily in the 10 communication studies he analyzed. Specifically, mass communication journals tended to cite sociology, business and political science. Further, So suggested that communication occupies only a peripheral position, and does not attract much attention from other fields. His data showed that communication research cites other field but receives few citations in return.

In determining the cross citation activities, these studies have not considered a factor--that the disciplines cited in a piece of communication research is directly related to the theme of each study. For example, a historical analysis might use more references in history. Schramm (1957) said because history of the press, the press in society, and the study of press as a communication process were the three main themes in the twenty years (1937-1957) of journalism research that he examined, the disciplines of history, political science, and psychology, sociology and anthropology were the main disciplines behind each dominant theme, respectively. So, a more appropriate method to understand a discipline integrated into a field is to correlate disciplines with the theme of the research.

The academic affiliation of the authors is another variable that could be related to the disciplines. Because of their different academic training, political scientists, journalism and communication scholars, or Chinese studies scholars will be more inclined to use major sources in their commonly used disciplines because of their different academic training. The correlates

with discipline and academic affiliation of the authors could be useful in citation analysis.

The academic affiliation of authors also can be a variable in the analysis of cross-journal and cross-disciplinary activities. All the citation studies on communication reviewed focused on journal-to-journal citations. The inadequacy of these citation studies, as Reardon and Rogers (1988) pointed out, is that they only investigated journal-to-journal citations, not scholar-to-scholar citations. For example, an interpersonal communication scholar, writing in a mass communication journal and citing an article by a mass communication scholar published in a mass communication journal, would not be making a cross-citation as measured by these studies. Further, this circumstance pinpoints the scholar-to-journal issue--whether the scholars will publish in journals of disciplines different from their academic affiliation. Reardon and Rogers suggested this inadequacy would not be a problem because previous research, such as Paisley's 1984 study, indicated that interpersonal and mass communication scholars tend to publish in their respective field. Because of this communication pattern between researchers, however, Paisley (1984) found continued evidence for academic "ethnocentrism" or inbreeding. He suggested that the same small group of universities continue to dominate the field, and that there was little sharing of ideas between different subfields in communication. So (1988) also found a lack of interflow between communication and other social science disciplines.

On a more practical level, journal-to-journal citations and scholar-to-journal citations could be performed more easily because the academic affiliation of the authors usually is given when the article is published. However, exploring the scholar-to-scholar activities might require extra effort, such as mailing questionnaires to cited authors inquiring about their academic affiliation. Such effort usually is time-consuming and difficult. So, this study will be limited to the analysis of the

journal-to-journal and scholar-to-journal activities.

The communication network among scholars can also be studied by using network analysis, such as Tankard et al.'s (1984) study of citations in Journalism Quarterly. This study showed that citation network analysis is useful in identifying research fronts, hot topics, classic papers and interconnectedness of a field. It suggested findings of citation network analysis may provide further analysis of the activities of a field.

In addition to studying communication as a field, a subfield of communication--international communication--also has been subject to citation analysis. Kent and Rush (1977) studied the geographical areas of interest through citations of international communication researchers published in Journalism Quarterly. Their approach was similar to the Tankard study in that both were interested in the nature of the activity rather than the cross-citations between the subfields in communication in the journal-to-journal citation studies.

This review of the application of citation analysis shows a wide range of uses of citation analysis method. It can help establish a field by identifying the disciplines involved. It also can identify whether there is an exchange between disciplines and types of journals. Further, it can help identify research activities and classics in the field. These uses form the basis for this study of how Chinese communication studies have developed as a field.

However, the examination of Chinese communication studies as a field differs in basic aims from the citation analysis studies reviewed in the paper. Chinese communication studies are an integration of two different disciplines--communication and Chinese studies. Specifically, by limiting the focus on one geographical location, Chinese communication can be classified as a subfield of international communication. Chinese studies can be classified as a subfield of Asian studies. Chinese communication studies, as a combination of two disciplines, imply

cross-disciplinary activities. Of course, this study seeks to determine whether this is actually the case.

This combination of two disciplines would affect the research questions formulated. So, this study will focus on the following areas: (1) the sources used in Chinese communication studies; (2) disciplines cited in Chinese communication studies; (3) cross-disciplinary activities and interconnectedness in the field; (4) citation networks that can help identify research fronts, hot topics and classic papers, or any particular journal or author who has the major contribution in the field?

Thus, this study will ask the following research questions:

(A) Sources of Citations

1. How were the cited sources distributed according to type of publication--journals articles, book, conference papers, thesis, newspapers, magazines, etc.? The answer will help identify the source of information used in the studies and may provide a later discussion of the strengthens and weaknesses of the information sources.

2. How were citations distributed according to age (the years between the cited document and the journal article)? The answer will help understand the recency of the data.

(B) Disciplines

3. What fields of specialization do the most frequently cited sources represent--for example, sociology, journalism, anthropology? All books and journals will be classified according to the Library of Congress system (for example, PN4700 represents journalism) to help identify the disciplines or boundaries establishing Chinese communication studies as a field.

4. Were there any differences between the disciplines cited in the communication journals and Chinese or Asian studies journals?

(C) Cross Citations

5. What fields of specialization did the citing authors represent? This will be answered by analyses of the disciplines

in which the authors received their doctorates or the academic disciplines with which they are affiliated or teaching. This may help understand the disciplines contributing and influencing Chinese communication research.

6. What proportion of these citations were self-citations? This will be determined by identifying authors who cited their previous studies, and journal containing citations from other studies in the same journal? The answer may help identify the citation network.

7. How were citations in the journals distributed according to frequency? The answer will help identify the contribution of each journal.

8. Do cross-citations exist among the communication journals and Chinese or Asian studies journals included in the study? This may help identify whether disciplines are crossed.

(D) Citation Network Analysis

9. Is there a particular researcher or book that has been most frequently cited in the field? The answer will help identify the influence of a researcher or a classic in the field.

10. Is there an active "research front" represented by classifying the subject matters of highly cited works in the field of Chinese communication research? The answer will help evaluate the research activity.

11. Can the citations be put into citation networks which are grouped into clusters? The citation network may identify the interrelationship between different scholars and disciplines.

12. Can a co-citation network be identified to locate highly cited works in the field? This will help identify works and authors that are highly visible in the field.

IV. Research Method

Two questions were addressed: (1) what journals should be chosen; and (2) how should the data be analyzed?

First, the selection of a core set of journals for analysis. Chinese communication research covers two fields: communication

and Chinese studies as an area study or part of Asian studies. Therefore, the choice of journals would include communication journals and Chinese and Asian studies journals. But first, in selecting the journals, a definition of communication is necessary. Communication scholar Wilbur Schramm (1963) said,

> "Communication research is concerned with all the ways in which information and ideas are exchanged and shared. Thus, we are talking about both mass and interpersonal communication. We are talking about the spoken word, signal, gesture, picture, visual display, print, broadcast, film--all the signs and symbols by which humans try to convey meaning and value to one another" (p.6, emphasis original).

Thus, according to Schramm's definition and previous analysis of citation patterns of communication (Reeves and Borgman, 1983), communication has two components: (1) interpersonal communication and (2) mass media or communication. Mass media not only are confined to newspapers, magazines, movies, radio, television, but also have expanded to include telecommunication technologies, such as computers, telephones and satellites.

A list of communication and Chinese and Asian studies journals published in the Journal Citation Reports of the Social Science Citation Index from 1977 to 1986 (Garfield, 1977-1986) was used to form a core set of journals. In addition, informal polls were conducted among communication and Asian studies scholars to find out if journals not on the JCR list should be included.[2]

In the 1986 JCR, 18 journals were classified as communication journals, and 11 journals were classified as Chinese and Asian studies journals. The selection criteria were: (1) the journals have to concern Chinese or Asian studies; (2) the communication journals have to meet Schramm's definition; (3) the journals selected have to use citation (that is footnotes and references list).

Accordingly, all 11 Chinese and Asian studies journals on the JCR list were chosen for the study. They are: (The years covered in the study--from date the journal began publication until latest issue in 1987--were put in parenthesis.)

Asian Affairs (1970-1987)
Asia Pacific Community (1978-1987)
Asian Survey (1961-1987)
Bulletin of Concerned Scholars (1969-1987)
China Quarterly (1960-1987)
Journal of Asian Studies (1956-1987)
Journal of Asian and African Studies (1966-1987)
Journal of Contemporary Asia (1970-1987)
Journal of Southeast Asian Studies (1970-1987)
Modern Asian Studies (1967-1987)
Modern China (1975-1987)

Thirteen communication journals which meet Schramm's definition of communication were selected. They are:

Communication Research (1974-1987)
Communication Monograph (1976-1987, formerly Speech Monographs, 1934-1976)
Critical Studies in Mass Communication (1984-1987)
Gazette (1955-1987)
Human Communication Research (1974-1987)
Journal of Broadcasting and Electronic Media (1985-1987, formerly Journal of Broadcasting, 1956-1985)
Journal of Communication (1951-1987)
Journalism Quarterly (1928-1987)
Media, Culture, Society (1979-1987)*
Public Opinion Quarterly (1937-1987)
Quarterly Journal of Speech (1928-1987)
Speech Communication (1982-1987)*
Telecommunication Policy (1976-1987)

Four of the Chinese and Asian studies journals are published in the United States; five in Europe; and one in Asia. Eleven of

the 13 communication journals are published in the United States; and two in Europe.[3] Journalism Quarterly and Quarterly Journal of Speech Communication are the two journals with the longest history; both began publication in 1928. Because all volumes of each journal were used, the study's coverage included 1928 to 1987.

After the journals were selected, the criteria for selecting articles were: all articles carried in the communication journals that mention the name China in the titles; and all articles carried in the Chinese or Asian studies journals about communication (interpersonal and mass) in China were chosen.

Each citation was a unit of analysis. Citation is defined by using the SSCI definition:

> "When one document (B) mentions, or refers to another document (A), the latter (A) has been cited by the former (B) as a source of information for a statement of fact, etc. The word citation is used to indicate not only the fact that document A has been cited in a reference of document B, but also for the description of document A contained in the reference. In this sense, citation and reference are frequently used interchangeably" (Garfield, 1986).

All footnotes and reference list contained in each article were used as the data set. Each unique source within the same article was recorded as one citation. If a source was referred to again in the same article with an Ibid or an Op. Cit., this was not counted as a second citation (Tankard el al., 1984).

The following information was recorded for each citation: (See Appendix I Coding Sheet).

1. Author(s) name for the article.
2. Year of publication for the cited work.
3. Title of the cited work.
4. Type of publication for the cited work (journal articles; books; book chapter or article in book; convention papers; theses and dissertations; newspaper articles; magazine articles; law

cases; speeches; personal communication such as letters, government reports; and other).

5. Journal title if cited work is a journal article.

6. Year of the journal title cited.

7. Author(s) name for citing article.

8. The year lapse between the cited article and citing article.

9. Whether the citation was a self-citation, that is (a) an author cites his or her previous studies; and (b) the same journal was cited by the article published in the journal.

In addition, the following information was collected:

1. Theme of each article: whether the studies focus on one of the following research interests: (a) communication theory; (b) survey of different media, such as newspapers, magazines, radio, television, film, advertising, and other mass media; (c) communication and modernization; (d) foreign relations; (e) biography (of a person or a medium); (f) interpersonal communication; and (g) other topics.

2. The discipline of each citation was identified, except newspaper and magazine articles; personal communication; reports; convention papers; theses or dissertations. The procedure taken was: each citation was checked with the Library of Congress classification system to identify the cited work's discipline.[4] If it is a book, the book's call number was used to check its discipline. If it is a journal article, the discipline of the journal in the Library of Congress classification system was used to represent the article's discipline.[5]

3. The academic affiliation of each article's author was recorded according to information provided about the author's academic affiliation at time of publication. Academic affiliation was categorized into: (a) journalism and communication schools, (b) Chinese and Asian studies, (c) political science departments, and (d) other.

After the frequency counts for the above categories were tabulated, those sources cited three or more times were used to

construct various types of citation networks. The first step was to construct a citation matrix with sources listed in the order of frequency with which they were cited. The citation matrix was then used to construct citation networks of two types--direct citation and co-citation. The following procedure, used in Tankard et al.'s study, was used.

A direct citation network was constructed by grouping the sources and then representing each instance of direct citation with an arrow from the citing document to the cited document. The connections shown in the direct citation networks are useful for showing historical development of a field.

A co-citation network was constructed by drawing a line between two documents if they were cited together by a number of other articles. First, the co-citation threshold was set at two, following the Tankard study's criteria.[6] However, because a small sample may result if a threshold is set at two, the co-citation threshold was then re-set at one to include the largest possible pool of citations for further analysis. The strength of co-citation can vary, depending on the number of sources that cite both documents. This varying strength can be represented by varying number of lines linking two documents. Co-citation can define an area of activity more specifically than direct citation. For instance, if a content analysis book and a book on television were co-cited heavily, this suggests that content analysis of television was an active area. Co-citation also can reflect changes in linkages over time, which direct citation cannot.

Furthermore, the citation pattern between communication journals and Chinese and Asian studies journals was analyzed to find out if there were cross journal citations.

V. Findings

The findings are presented according to (1) sources of citations, (2) disciplines, (3) cross-citations, and (4) co-citation network.

1. Citation Sources

Three of the 11 Chinese and Asian studies journals and six of the 13 communication journals carried articles about Chinese communication studies. Eighty-two articles were chosen for the study. The first article about communication in China was Vernon Nash's 1931 account of Chinese journalism in Journalism Quarterly. Seven of the 82 articles (8.5 percent) were published before 1949, when the Chinese Communist Party took over the mainland. The seven pre-1949 articles were published by Journalism Quarterly in 1931, 1933 and 1946; and by Public Opinion Quarterly in 1938, 1939, 1942 and 1943. So, this study covered communication studies published between 1931 and 1987.

Table 1 shows the number of articles published in each journal and how many journal articles contained citations that were included in the study. Journalism Quarterly led with 28 articles, followed by Public Opinion Quarterly, 13; Gazette, 12; China Quarterly, 11. These four journals accounted for 78 percent of all articles. As a group, the communication journals published 63 articles, 76.8 percent; whereas the China journals published 19 articles, 23.2 percent.

Sixty-two of the 82 articles about communication in China used citations and were included in the citation analysis. Tables 1 lists the reasons why ten articles were not included in the study. The reasons were: (1) Some articles used only Chinese-language newspapers or magazines that would not be cited in the English-language journals; (2) English-language newspapers and magazines were cited that would not fit the purpose of this citation study; and (3) only personal interviews were used.

Five hundred and sixty-one citations from the 62 articles were used in the citation analysis. Table 1 shows that communication journals accounted for 63.3 percent of all citations, 355 citations; and China journals accounted for 36.7 percent, 206 citations. Journalism Quarterly and China Quarterly had the highest citation counts, 154 and 122, respectively.

These two journals together recorded almost 50 percent of all citations.

In terms of types of sources cited in the journals, Table 2 shows that books were the most cited sources--302 citations, 53.7 percent; followed by journal articles, 164 citations, 29.4 percent; book chapters, 65 citations, 11.6 percent. Convention papers, dissertations or theses, government reports and other types of sources accounted for 30 citations, or 5.3 percent.

Table 3 shows the distribution of the citations by year. Most of the citations were published from the 1960s to the 1980s. Citations increased significantly in the 1960s with 229 citations, 40.8 percent; followed by the 1970s with 189 citations, 33.7 percent; and 1980s with 34 citations, 6.1 percent. These three decades accounted for 82.7 citations used in the journal articles.

Table 3 shows similar pattern in the use of citations in the journal articles covering 1960s to 1980s. The later the articles were published, the more citations were used. The citations in 1980s accounted for 274 citations, 48.8 percent; followed by 1970s, 192 citations, 34.2 percent; and 1960s, 87 citations, 15.5 percent. Few citations were used in articles published between the 1920s and 1950s--8 citations, 1.5 percent.

Table 4 shows that citations were fairly recent. About two in every five citations, 39.9 percent (224 citations), were within five years of the time the article was published. Thirteen citations, or 2.3 percent, were sources published in the same year the citing article was published. The oldest citation shows a lapse of 59 years.

2. Disciplines

Table 5 shows that Chinese history was the most cited discipline with 204 citations, or 36.4 percent. Books on journalism and communication were the second most cited sources with 137 citations, 24.4 percent. This was followed by sociology and social science, 87 citations, 15.5 percent; history

books in general, 64 citations, 11.4 percent; and political science, 46 citations, 8.2 percent. These four disciplines--history about China and in general, journalism and communication, sociology and social science, and political science--accounted for 95.9 percent of all citations.

Table 5 shows the changes of the disciplines over time. Chinese history was cited more often after the 1960s, accounting for 94 citations, or 46.1 percent of all such citations. Sources related to history in China were also heavily cited in the 1970s--76 citations, 37.3 percent of all Chinese history citations. The 1950s marked the beginning of a sharp increase in journalism and communication citations, with 20 citations, 14.6 percent of all journalism citations. The trend in journalism and communication citations rose to the highest in the 1960s--54 citations, 39.4 percent of journalism and communication citations.

The disciplines also are related to the themes of the articles. Table 6 shows that articles about foreign relations, survey of the media, and use of communication in China's development were the three themes with the highest citation counts--152, 27.1 percent; 133, 23.7 percent; and 88, 15.7 percent, respectively. The general pattern is that almost every article used sources from Chinese history more than sources from journalism and communication. The only exception was survey of the media articles, which used more journalism and communication sources--68 citations, or 51.1 percent of all survey of the media articles' citations. Additionally, even for communication and development studies, more Chinese history sources than communication sources were used to interpret communication in the larger social and political context in China. About half of the citations used in communication and development studies (40 citations, 45.5 percent) were Chinese history sources, and 18.2 percent (16 citations) were journalism and communication sources.

The disciplines cited were related to the academic affiliation of the citing authors. Table 7 shows that journalism and communication authors and Chinese and Asian studies authors tended to cite more in their own field, accounting for 46.2 percent and 61.8 percent in the journalism and communication and Chinese history, respectively. Political science authors' citations were spread out among Chinese history (41 citations), sociology (32 citations), political science (26 citations) and journalism (20 citations).

3. Cross Citations

Cross citations refer to journal-to-journal citations between Chinese studies journals and communication journals, and self-citations of authors and journals.

First, there were few self-citations of authors and journals. Table 8 shows that 28 citations, 5.0 percent were the authors' self citations. For journals' self citations, 31 of 164 citations (18.9 percent) in the China and communication journals used in the study cited the same journal. China Quarterly and Journalism Quarterly, the two more important journals in its field, had the highest self-citations, each with 14 self citations.

The journal-to-journal citations show little cross-journal activities between Chinese and communication journals. Table 9 shows that China journals only had one citation from communication journals, whereas the majority of communication journals citations were from communication journals and other journals.

The analysis of the authors' academic affiliation with journal citations also shows a lack of exchanges between communication and Chinese studies authors. Table 10 shows that of all the journal citations, communication authors and Chinese studies authors tended to use journals in their own field, accounting for 58.4 percent and 40.6 percent of citations in its own area, respectively. Political science authors tended to use

more Chinese studies journals than communication journals.

4. Citation Network

Before analyzing the citation network, a discussion of the citation distribution is necessary. Table 11 shows the frequency count for particular authors and references. The author citation refers to the name of an author mentioned even though different references of the author were cited. The reference refers to the same book or journal article cited. In terms of author citation, 15 authors were cited more than five times. They were: Frederick T. C. Yu, 13; Alan P. L. Liu, 10; Ithiel de Sola Pool, 9; Alex Inkeles, 9; Mao Tse Tung (Mao Zedong), 8; Franklin Houn, 7; Lucian Pye, 7; Edgar Snow, 7; Holsti, 6; Rogers, 6; Schramm, 6; Schurmann, 6; Chu, 5; Edelstein, 5; Whiting, 5.

If self citations of the authors were discounted, and only the same references cited more than three times were selected, the list was down to eight. Table 12 shows the list of references cited more than three times. Alan P. L. Liu's 1971 book, Communications and National Integration in Communist China received seven citations, the most of all eight books. Houn's 1961 book, To Change a Nation: Propaganda and Indoctrination in Communist China, with five citations, was the next highest cited reference. Edelstein and Liu's 1963 article on "Anti-Americanism in Red China's People's Daily" in Journalism Quarterly, Inkeles' 1950 book on Public Opinion in Soviet Union: A Study in Mass Persuasion; and Schwarz' 1966 article on Tsan Kao Hsiao-hsi in China Quarterly each were cited four times. Yu's 1964 book, Mass Persuasion in Communist China; Schurmann's 1968 book, Ideology and Organization in Communist China; and Siebert's 1956's books, Four Theories of the Press; were cited three times each. These eight references represent the disciplines of history about China (5), journalism (2) and sociology (1).

Table 12 shows that the eight references actually were cited by a group of 20 different authors. The citation matrix of the eight references is shown in direct citation matrix in Table 13

and Figure 1. As the latest book on the list, Liu (1971) cited four references--Inkeles (50); Houn (1961); Yu (1964); and Schurmann (1968). Schurmann (1968) cited Houn and Yu. Yu (1964) cited Inkeles (1950) and Houn. Edelstein and Liu (1963) cited Houn. Houn (1961) cited Inkeles. Siebert (1956) cited Inkeles. Schwarz did not cite any one of the authors on the list. As the first book published on the list, Inkeles obviously could not cite the later references.

Figure 2 shows the co-citation network of these eight authors. If the threshold is set at two, only Houn (1961) and Yu (1964) will show a co-citation network. If the threshold is set at one, it shows a co-citation network between Inkeles and Houn, Yu and Schurmann; between Houn and Yu and Schurmann; Yu and Schurmann. This co-citation network was all taken from citations in Liu's (1971) book. The other co-citation network, depicted from Schurmann's citations, shows a connection between Inkeles and Houn, and Houn and Yu.

In terms of journals cited more than five times, Table 14 shows that China Quarterly led by 31 citations, 5.5 percent; followed by Journalism Quarterly, 30, 5.3 percent; American Sociological Review, 11, 2.0 percent; and Asian Survey, 10, 1.8 percent. These four journals accounted for 14.6 percent of all citations.

VI. Discussion and Recommendations for Future Study

The findings show that the four older and more authoritative journals in Chinese and communication studies--Journalism Quarterly, Public Opinion Quarterly, Gazette, and China Quarterly--were the more important sources of citations in the research of Chinese communication system.

The analysis of the disciplines shows that Chinese studies have been cited more than communication studies. However, it also shows that there has been a lack of exchanges between the two fields. This is similar to the findings of Reeves et al. (1983), Rice et al. (1988) and So (1988) in mass and

interpersonal communication. However, the difference is: mass and interpersonal communication are two subfields in the same field. Chinese communication studies, however, imply an integration of two different disciplines, and the boundary should not be limited to either communication or Chinese studies only. The findings cautions communication scholars and Chinese studies scholars to use sources in both fields in the future since they share an inter-disciplinary area. Chinese studies deal with the larger and more comprehensive aspects of China, whereas communication studies focus on the role of communication in the overall Chinese political and social-cultural context.

Further, the co-citation analysis has not shown any major hot topics and research fronts from 1928 to 1987, the period covered in the study. Perhaps it still lacks a major impact-making study that has long lasting influence in the field. The books by Houn (1961), Yu (1964), and Liu (1971) were the more frequently cited references in the field. Houn and Liu, whose academic affiliation is political science, had been the most prolific researchers on the Chinese communication systems in the late 1960s and 1980s.

Even though the co-citation network is quite small, Chinese communication studies seem to be inspired by Inkeles' Soviet Communication studies. Houn, Yu and Liu's books, which used Inkeles'(1950) book on Soviet public opinion to structure their studies direction and content, have emphasized the use of communication to shape a new Chinese people after 1949. This theme was followed up later by Godwin Chu (1978) in his book Radical Change Through Communication in Mao's China. Chu's book, though quite a highly acclaimed book in the field, was not a much cited reference in the study's findings. Judging from the time lapsed between the citations, there is yet a book after 1971 (using Liu's book as a departure) or 1978 (using Chu's book as a departure) to document the change of the role of communication in China.

The fact that Selected Works of Mao Zedong was one of the more cited references also indicates that researchers have tried to use Mao's sayings and philosophy to understand China's development.

The citation analysis also confirms the authoritative status of the two flagship journals in the Chinese studies and communication fields, China Quarterly and Journalism Quarterly. They both led in terms of publishing Chinese communication articles and citations.

As for individual scholars in the field, if the number of times an author is cited can be used as a measurement regardless of the quality of the research, Alan P. L. Liu, Franklin Houn and Frederick T. C. Yu were among the most important. Comparatively speaking, Houn (deceased) and Liu have been very prolific in the sixties and seventies with research that provided an overview of the mass communication system in the new Communist rule. Houn and Liu each published five articles on China's mass media. In the eighties, no single author has risen as the most prolific researcher.

This study, using citation analysis to trace the development of Chinese communication studies, demonstrates that if future citation analysis can include the two variables used in the study--theme of the researches and authors' academic affiliation--the findings might be more meaningful and give a better understanding. The scholar-to-journal citations findings suggest that the authors opted not to cite sources different from their fields.

Moreover, the findings also reaffirm Tankard's suggestion that co-citation network analysis is necessary, in addition to citation count, to identify research activities.

The inclusion of the analysis of the theme of the articles in the study also suggest an integration of other research method in a citation study. The research method integrated in the study is a content analysis of the themes of the articles.

The study finds that there is no active research front and major work in the field even though the study covers almost 60 years (1928-1987). Whether Chinese communication studies will develop further, maybe with the rise of a co-citation network, really depends on whether there is a continuous publication of Chinese communication studies in the English-language journals.

Endnotes:

1. The Winter 1988 issue of Human Communication Research, vol. 15, no. 2, carried a symposium on mass and interpersonal communication. The discussion was based on two citation studies by Clement Y. K. So and Ronald E. Rice, Christine L. Borgman, and Byron Reeves.

2. The polls were not conducted scientifically and only professors in a school of journalism and an Asian studies center were asked if they would add any significant journals in their field to include in the study.

3. Two communication journals, Media, Culture, Society, published in London since January 1979; and Speech Communication, published in Amsterdam since May 1982 were dropped from the list because the two journals were not available in the libraries immediately accessible to the researcher.

4. LC Classification Outline, 4th edition, Library of Congress, Washington, D. C., 1978.

5. Even though the journal article itself has really no discipline because it often applies to more than one, the assumption here is if it is published in a political science journal, for example, it is more related to political science.

6. There is no standardized threshold used in the co-citation studies. Tankard et al's study arbitrarily set at two. The threshold is set at one for this study so that it would provide a larger dataset for co-citation analysis.

Table 1

Number of Articles and Citations in Journals

Journal	Total Articles	Articles w/cites	Citation Frequency	Cite Percent	Mean Cite.
CHINA JOURNALS	19	16	206	36.7	12.9
Asian Survey	7	6	72	12.8	12.0
China Quarterly	11	9	122	21.7	13.6
Modern China	1	1	12	2.2	12.0
COMMUNICATION JOURNALS	63	46	355	63.3	7.7
Communication Research	2	2	58	10.3	29.0
Gazette	12	7	55	9.8	7.9
Journal of Broadcasting	1	0	0	0.0	0.0
Journal of Communication	7	7	57	10.2	8.1
Journalism Quarterly	28	22	154	27.5	7.0
Public Opinion Quarterly	13	8	31	5.5	3.9
TOTAL	82	62	561	100.0	

Note 1: The following Asian and Chinese studies journals and communication journals included in the original journal list did not have relevant articles that fit the selection criteria: Asian Affairs, Asian Pacific Community, Bulletin of Concerned Asian Scholars, Journal of Asian and African Studies, Journal of Asian Studies, Journal of Contemporary Asia, Journal of Southeast Asian Studies, Modern Asian Studies, Communication Monographs, Critical Studies in Mass Communication, Human Communication Research, Speech Communication and Telecommunications Policy.

Note 2: List of journal articles that did not have any citations at all: (a) Gazette--English (1976); Lieberman (1957); Qian (1987); (b) Journalism Quarterly--Nash (1931 & 1933); Shieh (1951); (c) Public Opinion Quarterly--De Boer (1980); Erskine (1971); Schein (1956); Schreiner (1943). The following articles that cited Chinese-language newspapers and magazines only were considered as having no citations used: (a) China Quarterly--Clark (1983); Wu (1973); (b) Journal of Broadcasting and Electronic Media--Guo (1986); (c) Journalism Quarterly--Houn (1956 & 1957); Liu (1966); (d) Public Opinion Quarterly--Houn (1959). The following articles that cited English-language newspapers and Magazines were considered as having no citations used: (a) Asian Survey--Maier (1980); (b) Gazette--Terrell (1984). One article (Gazette--Pehowski 1979) using personal interviews in references was not included in the citation study. So, 20 out of 82 articles selected were considered using no citations at all for further study.

Table 1 (cont'd)

Note 2 (cont'd): The following is a breakdown of the articles not included in the study for analysis.

Year	No Citations At All	Chinese Newspapers	English Newspapers	Personal Interview	TOTAL	TOTAL %
1930s	2	0	0	0	2	10.0
1940s	1	0	0	0	1	5.0
1950s	3	3	0	0	6	30.0
1960s	0	1	0	0	1	5.0
1970s	2	1	0	1	4	20.0
1980s	2	2	2	0	6	30.0
TOTAL	10	7	2	1	20	
TOTAL %	50.0	35.0	10.0	5.0		100.0

Table 2

Types of Sources Cited in Journals

Source	Frequency	Percentages
Books	302	53.7
Journal articles	164	29.4
Book chapters	65	11.6
Convention papers	13	2.3
Dissertation/thesis	11	2.0
Government reports	2	0.4
Other	4	0.6
TOTAL	561	100.0

Table 3

Distribution of Citations By Year

Year of Citations Cited in Journals			Year Citing Articles Published		
Year	Frequency	Percentages	Year	Frequency	Percentages
1920s	5	0.9	1920s	0	0.0
1930s	14	2.5	1930s	5	0.9
1940s	20	3.6	1940s	1	0.2
1950s	70	12.5	1950s	2	0.4
1960s	229	40.8	1960s	87	15.5
1970s	189	33.7	1960s	192	34.2
1980s	34	6.1	1970s	274	48.8
TOTAL	561	100.0		561	100.0

Table 4

Years Lapsed Between Citations and the Citing Articles Published

Years lapsed	Frequency	Percent	5-year	Frequency/percent
0	13	2.3		
1	38	6.8		
2	48	8.6		
3	44	7.8		
4	49	8.7		
5	32	5.7	(0-5)	224 39.9
6	31	5.5		
7	30	5.3		
8	24	4.3		
9	24	4.3		
10	15	2.7	(6-10)	124 22.1
11	24	4.3		
12	19	3.4		
13	18	3.2		
14	9	1.6		
15	11	2.0	(11-15)	81 14.5
16	10	1.8		
17	16	2.9		
18	15	2.7		
19	16	2.9		
20	7	1.2	(16-20)	64 11.5
21	2	0.4		
22	6	1.1		
23	3	0.5		
24	7	1.2		
25	7	1.2	(21-25)	25 4.4
26	5	1.2		
27	3	0.5		
28	6	1.1		
29	4	0.7		
30	4	0.7	(26-30)	22 3.9
31	2	0.4		
32	3	0.5		
33	1	0.2		
34	2	0.4	(31-35)	6 1.1
36	2	0.4		
39	1	0.2	(36-40)	3 0.6
41	1	0.2		
44	1	0.2	(41-45)	2 0.4
46	1	0.2		
47	1	0.2		
49	1	0.2	(46-50)	3 0.6
51	1	0.2		
52	2	0.4		
55	2	0.4	(51-55)	5 1.0
57	1	0.2		
59	1	0.2	(56-59)	2 0.4
TOTAL	561	100.0		

Table 5

Disciplines By Year the Citing Article Published

Count Column %	Journalism Comm.	History General	History China	Anthro.	Sociology So.Science	Pol. Sc.
1920s	3	0	2	0	0	0
	2.2	0.0	1.0	0.0	0.0	0.0
1930s	1	0	8	0	0	4
	0.7	0.0	3.9	0.0	0.0	8.7
1940s	3	4	4	0	5	0
	2.2	6.3	2.0	0.0	5.7	0.0
1950s	20	9	15	1	19	5
	14.6	14.1	7.4	50.0	21.8	10.9
1960s	54	24	94	1	24	26
	39.4	37.5	46.1	50.0	27.6	56.5
1970s	37	26	76	0	36	11
	27.0	40.6	37.3	0.0	41.4	23.9
1980s	19	1	5	0	3	0
	13.9	1.6	2.5	0.0	3.4	0.0
Column %	137	64	204	2	87	46
	24.4	11.4	36.4	0.4	15.5	8.2

	Psychology	Education	Other	ROW TOTAL/%
1920s	0	0	0	5
	0.0	0.0	0.0	0.9
1930s	1	0	0	14
	20.0	0.0	0.0	2.5
1940s	2	0	2	20
	40.0	0.0	0.4	3.6
1950s	0	0	1	70
	0.0	0.0	14.3	12.5
1960s	2	2	2	229
	40.0	22.2	28.6	40.8
1970s	0	1	2	189
	0.0	11.1	28.6	33.7
1980s		6		34
		66.7		6.1
Column TOTAL/%	5	9	7	561
	0.9	1.6	1.2	100.0

Table 6

Theme of Articles By Disciplines

ROW %	Journalism Comm.	History General	Hisotry China	Anthro.	Sociology So. Sci.	Pol. Sc.
Media Theory	4 16.7	0 0.0	13 54.2	0 0.0	6 25.0	1 4.2
Survey of Media	68 51.1	6 4.5	26 19.5	0 0.0	21 15.8	2 1.5
Foreign Relations	39 25.7	32 21.1	29 19.1	0 0.0	26 17.1	21 13.8
Comm Development	16 18.2	6 6.8	40 45.5	2 2.3	11 12.5	11 12.5
Biography	0 0.0	4 11.4	30 85.7	0 0.0	1 2.9	0 0.0
Inter-personal	0 0.0	2 9.1	13 59.1	0 0.0	1 4.5	4 18.2
Other	10 9.3	14 13.1	53 49.5	0 0.0	21 19.6	7 6.5

	Education	Psychology	Other	ROW TOTAL/%
Media Theory	0 0.0	0 0.0	0 0.0	24 4.3
Survey of Media	9 6.8	1 0.8	0 0.0	133 23.7
Foreign Relations	0 0.0	0 0.0	5 3.3	152 27.1
Comm Development	0 0.0	1 1.1	1 1.1	88 15.7
Biography	0 0.0	0 0.0	0 0.0	35 6.2
Inter-personal	0 0.0	1 4.5	1 4.5	22 3.9
Other	0 0.0	1 1.9	0 0.0	107 19.1

Table 7

Disciplines By Author's Academic Affiliation

ROW %	Journalism Comm.	History General	History China	Anthro.	Sociology So. Sci.	Pol. Sc.
Jlm/Comm	104	21	55	0	32	8
	46.2	9.3	24.4	0.0	14.2	3.6
Chinese Studies	11	14	89	0	16	12
	7.6	9.7	61.8	0.0	11.1	8.3
Political Science	20	23	41	1	32	26
	13.7	15.8	28.1	0.7	21.9	17.8
Other	2	6	19	1	7	0
	4.3	13.0	41.3	2.2	15.2	0.0

	Education	Psychology	Other	ROW TOTAL/%
Jlm/Comm	0	3	2	225
	0.0	1.3	0.9	40.1
Chinese Studies	1	0	1	144
	0.7	0.0	0.7	25.7
Political Science	0	0	3	146
	0.0	0.0	2.1	26.0
Other	1	9	1	46
	2.2	1.6	2.2	8.2

Table 8

Self-Citations Matrix

A. Journals Self-Citations Matrix

CITING JOURNAL	CITED JOURNAL								
	China Journals			Communication Journals					
	AS	CQ	MC	CR	GZ	JB	JC	JQ	PQ
Asian Survey	0								
China Quarterly		14							
Modern China			0						
Communication Research				1					
Gazette					0				
Journal of Broadcasting						0			
Journal of Communication							1		
Journalism Quarterly								14	
Public Opinion Quarterly									1
TOTAL		14				17			31
		China Journals				Communication Journals			

B. Authors Self-Citations

	Frequency	Percentage
Self Citations	28	5.0
Citing Others	533	95.0
TOTAL	561	100.0

Table 9

Journal-to-Journal Citations

ROW COUNT %	Comm Journals	China Journals	Other	Not Applicable	TOTAL %
Comm Journals	49	22	38	246	355
	13.8	6.2	10.7	69.3	63.3
	98.0	47.8	55.9	62.0	
	8.7	3.9	6.8	43.9	
China Journals	1	24	30	151	206
	0.5	11.7	14.6	73.3	36.7
	2.0	52.2	44.1	38.0	
	0.2	4.3	5.3	26.9	
COLUMN TOTAL	50	46	68	397	561
	8.9	8.2	12.1	70.8	100.0

Table 10

Journal Citations By Journal Types and Authors Academic Affiliation

AFFILIATION	JOURNAL TYPES			
	China Journals	Comm Journals	Other Journals	ROW TOTAL/%
Jlm/Comm	12	45	20	77
	15.6	58.4	26.0	47.0
	26.1	90.0	29.4	
Chinese Studies	13	2	17	32
	40.6	6.3	53.1	19.5
	28.3	4.0	25.0	
Political Science	15	3	22	40
	37.5	7.5	55.0	24.4
	32.6	6.0	32.4	
Other	6	0	9	15
	40.0	0.0	60.0	9.1
	13.0	0.0	13.2	
COLUMN	46	50	68	164*
%	28.0	30.5	41.5	100.0

*The total citations from journal articles only were 164.

Table 11

Frequency Count of Authors and References Cited in Journals

AUTHORS				REFERENCES			
Times Cited	Frequency	%	Cumulative %	Times Cited	Frequency	%	Cumulative %
1	269	74.9	74.9	1	507	90.4	90.4
2	42	11.7	86.6	2	46	8.2	98.6
3	25	7.0	93.6	3	2	0.4	99.0
4	8	2.2	95.8	4	4	0.7	99.7
5	3	0.8	96.6	5	1	0.2	99.9
6	4	1.1	97.7	6	0	0.0	99.9
7	3	0.8	98.5	7	1	0.2	100.1*
8	1	0.3	98.8	8	0	0.0	100.1
9	2	0.6	99.4	9	0	0.0	100.1
10	1	0.3	99.7	10	0	0.0	100.1
11	0	0.0	99.7	11	0	0.0	100.1
12	0	0.0	99.7	12	0	0.0	100.1
13	1	0.3	100.0	13	0	0.0	100.1
TOTAL	359						

*Exceeding 100 due to rounding error.

Table 12

List of References Cited More Than 3 Times (In Descending Order)

Author	Year	Discipline of Author/Book	Cited Count	Types	Year Citing	Citing Author	Citing Journal	Age	Age Range
LIU, Alan	71	Pol. Sc./ History-- China	7	Book	1971	Mills	AS	0	0-12
					1977	Hoffer	JQ	6	
					1978	Pye	AS	7	
					1979	Walder	CQ	8	
					1980	Liao, K.S.	CR	9	
					1983	Chu, L.	GZ	12	
HOUN, F.	61	Pol. Sc./ History-- China	5	Book	1963	Edelstein	JQ	2	0-22
					1969	Oliphant	JQ	8	
					1978	Pye	AS	17	
					1980	Liao, K.S.	CR	19	
					1983	Chu, L.	GZ	22	
EDEL-STEIN & LIU	63	Journalism/ Journalism	4	Journal Article	1969	Koschwitz	GZ	6	6-23
					1977	Wang	JQ	14	
					1981	Lee, C.C.	JOC	19	
					1986	Lin	JQ	23	
INKELES	50	Pol. Sc./ Social Sc.	4	Book	1957	Houn, F.	JQ	7	7-20
					1964	Liu, A.	JQ	14	
					1981	Chu, G.	JOC	18	
					1982	Chu, J.	GZ	20	
SCHWARZ	66	Chinese/ Social Sc.	4	Journal Article	1973	Macfarquhar	CQ	7	7-16
					1964	Liu, A.		8	
					1981	Chu, G.		19	
					1982	Chu. J.		20	
YU, F.	64	Journalism/ History-- China	3	Book	1972	Liao, K.S.	CR	8	8-14
					1978	Pye	AS	14	
					1981	Lee, C.C.	JOC	15	
					1982	Atwood	JQ	16	
SCHURMANN	68	Chinese/ History-- China	3	Book	1969	Broman	JQ	1	1-14
					1981	Mills	AS	13	
					1983	Chu, L.	GZ	19	
SIEBERT	56	Journalism/ Journalism	3	Book	1981	Robinson	JOC	15	15-20
					1983	Chu, L.	GZ	17	
					1986	Lin	JQ	20	

Note: Only the name of the first author was listed here.

Table 13

Citation Matrix (In Chronological Order)

	Inkeles (50)	Siebert (56)	Houn (61)	Edelstein/ Liu (63)	Yu (64)	Schwarz (66)	Schurmann (68)	Liu (71)
Inkeles (50)								
Siebert (56)	X							
Houn (61)	X							
Edelstein/ Liu (63)			X					
Yu (64)	X		X					
Schwarz (68)								
Schurmann (68)			X		X			
Liu (71)	X		X		X		X	

References:

Inkeles, Alex. Public Opinion in Soviet Russia: A Study in Mass Persuasion. Cambridge: Harvard University Press, 1950.

Siebert, Fred S., Theodore Peterson, and Wilbur Schramm. Four Theories of the Press. Urbana: University of Illinois Press, 1956.

Houn, Franklin W. To Change A Nation: Propaganda and Indoctrination in Communist China. New York: The Free Press of Glencoe, 1961.

Edelstein, Alex S. and Alan P. L. Liu. "Anti-Americanism in Red China's People's Daily: A Functional Analysis." In Journalism Quarterly, vol. 40, no. 2, Spring 1963, pp. 187-195.

Yu, Frederick T. C. Mass Persuasion in Communist China. New York: Praeger Publisher, 1964.

Schwarz, Henry G. "The Tsan-kao Hsiao-shi: How Well Informed Are the Chinese Officials About the Outside World." In China Quarterly, no. 27, July-Sept. 1966, pp. 54-83.

Schurmann, Franz. Ideology and Organization in Communist China. Berkeley: University of California Press, 1966.

Liu, Alan P. L. Communication and National Integration in Communist China. Berkeley: University of California Press, 1971.

Table 14

The Most Cited Journals List (Minimum 5 Times)

JOURNAL	Frequency	Percentages
China Quarterly	31	5.5
Journalism Quarterly	30	5.3
American Sociological Review	11	2.0
Asian Survey	10	1.8
Public Opinion Quarterly	8	1.4
World Politics	7	1.2
Gazette	5	0.9
Other	62	11.1
Not Applicable	397	70.8
TOTAL	561	100.0

Figure 1

Direct Citation Network

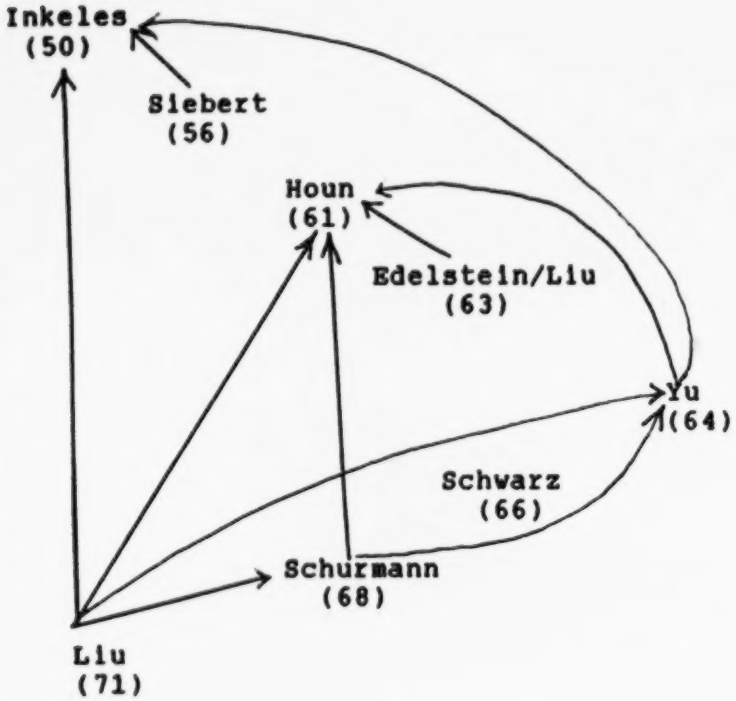
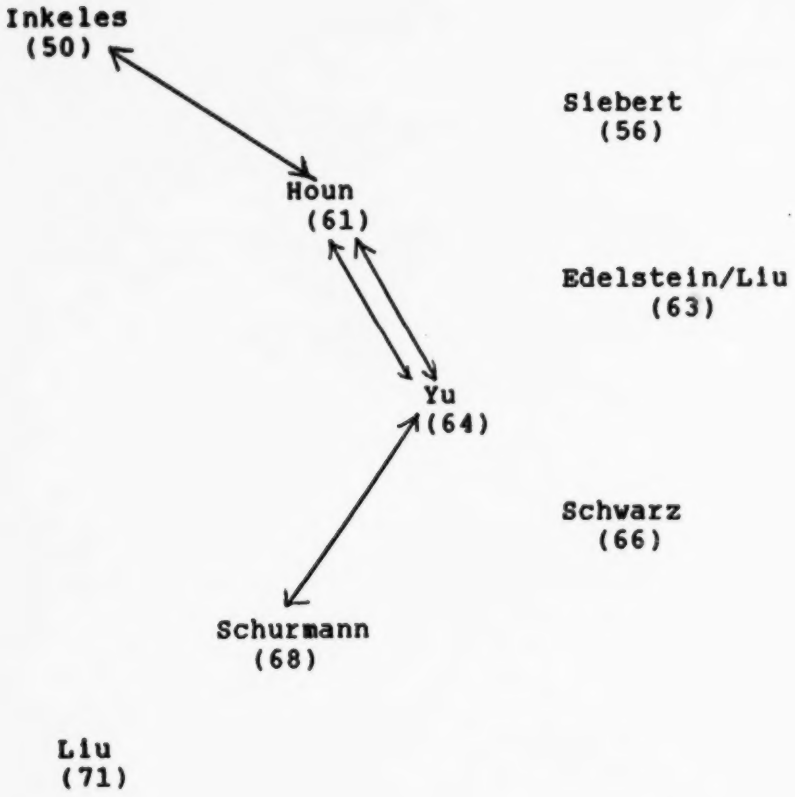


Figure 2

Co-Citation Network (Threshold Set at 1)



Appendix I

Chinese Communication Co-citation Study Coding Form

Column	Content
1-19	Name of authors of the citation CITED Last name first (list last name in full) first name use initials if more than one author, code initials
20	space
21-39	The key words of the title CITED use space between words. C. stands for China
40	space
41-42	Name of the journal the article CITED See list attached, use 00 if not applicable Write down the code # of journal not on the list
43	space
44-45	Year of the CITED article published Use the year the article published in the journal enter last two digits of the year only
46	space
47-48	Type of publication CITED 01. journal article 02. books 03. book chapters or article in a book 04. convention paper 05. thesis 06. dissertation 07. speeches 08. newspaper articles 09. magazine articles 10. personal communication, such as letters 11. government reports 12. other (none of the above)
49	space
50	Self citation (author citing himself or herself) 1 = yes, 0 = no
51	space

52	Origin language of the citation (Note: if a newspaper article is used, note the original language of the paper) 1. Chinese 2. English 3. Other
53	space
54-55	Discipline of books and journals cited (do not include newspaper articles, magazine articles, personal communication, convention papers, theses and dissertations, government reports.) Use the first two letter assigned to the journal according to Library of Congress classification
56	space
57-58	Use up to 2 spaces to record the journal title CITING See list.
59	space
60-61	Year of the journal article CITING Record only the last two digits of the year
62	space
63-	Name of the Author(s) CITING Use last name first, follwed by first name, use initials if more than one author, use initials of coauthors only